

ABSTRACT

The present invention includes an engine diagnostic method and routine, wherein a method of using an ionization signal to perform an engine diagnostic routine includes the steps of detecting the ionization signal; integrating the ionization signal over a first sampling window to generate a first integration ionization value; detecting a peak of the ionization signal over said first sampling window to generate a first peak ionization value; integrating the ionization over a second sampling window to generate a second integration ionization value; detecting a peak of the ionization signal over a second sampling window to generate a second peak ionization value; and diagnosing the engine using said ionization signal.